NUCLEAR PROLIFERATION AND THE INDIAN EXPLOSION

by

ARCHER K. BLOOD*

India's detonation of a nuclear device beneath the surface of the Rajasthan Desert on 18 May 1974 was a "shot heard around the world." Now that more than a year has passed, we can attempt at least a tentative assessment of the significance of the Indian nuclear explosion, as it affects both India and the international problem of checking the further proliferation of nuclear weapons.

The most immediately apparent significance of the Indian nuclear explosion was to mark the failure of the Non-Proliferation Treaty (NPT) to exercise an entirely effective political restraint over the will of non-nuclear-weapon states to develop nuclear weapons. Admittedly, India had not signed the Treaty on the Non-Proliferation of Nuclear Weapons, and indeed had criticized the treaty as discriminatory on the grounds that it allows states which already possess nuclear weapons to retain them while denying others the right to exploit nuclear technology for peaceful purposes. Nonetheless, the hope existed that the widespread support of the treaty (at that time 83 ratifications, and 23 signatories which had not yet ratified) would constitute a norm of behavior which would be followed not only by the parties to the treaty but by other nations as well.

India's action in exploding a nuclear device ran counter to Article II of the treaty which provides that non-nuclear-weapon states undertake not to manufacture nuclear weapons or other nuclear explosive devices. No failure or violation of technical controls was involved. The plutonium for the explosion was derived from the Canadian-assisted research reactor at Trombay. It was not a reactor operating under International Atomic Energy Agency (IAEA) safeguards; what failed, or rather was subject to misinterpretation by both sides, was a basically unpoliced "gentleman's agreement" between India and Canada.

Of longer range significance is the fact that India can now, for all practical purposes, be considered an incipient nuclear weapons state. The technology of making nuclear explosives for peaceful purposes is indistinguishable from the technology of making nuclear weapons. If India can explode a nuclear device, it can explode a relatively simple atomic bomb. India's force of Canberra bombers provides an immediately available delivery system with an operational radius of more than a thousand miles. And, near the end of the decade when India launches a satellite with the SLV-3 rocket, on its own without Soviet help, it could possess the capability for a missile delivery system.

But here we bump directly against that perennial problem of intent vs. capability. India has the capability to develop nuclear weapons; does India intend to do so? In New Delhi last fall Secretary Kissinger said that we take seriously India's affirmation that it has no intention to develop nuclear weapons. Certainly it is prudent and politic to take India's word on this, particularly since we so strongly hope that India will not move toward the development of nuclear weapons.

Moreover, a good strategic military rationale for an Indian nuclear weapons capability seems lacking. An embryonic nuclear power, such as India, would be highly vulnerable vis-a-vis a more advanced nuclear

*See biographical sketch of author on page 37.

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
1975		**00-00-1975 to 00-00-1975**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Nuclear Proliferation and the Indian Explosion	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **US Army War College,ATTN: Parameters,122 Forbes Avenue,Carlisle,PA,17013-5238**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**5**	

power, such as China. An embryonic nuclear power is also more likely to be a target for nuclear weapons than a non-nuclear power, because the attacker could claim preemption. In regional terms, India is already the dominant power in South Asia. If India were to develop nuclear weapons, it would only marginally increase its preponderant strength over Pakistan and could stimulate Pakistan to become a nuclear power. If in time both India and Pakistan possessed nuclear weapons, Indian conventional preponderance would be subsumed under nuclear parity.

The serious, and hopeful, acceptance of India's assertion that it is exploring only the peaceful uses of nuclear power does not include automatic acceptance of the argument that India will be able to justify the non-military application of nuclear explosives on economic grounds. In India, proposals have been advanced to employ nuclear explosions for a variety of peaceful uses such as the extraction of copper from low-grade deposits, the excavation of harbors and canals, and the extraction of oil from shale. Not at issue here are applications of nuclear energy which do not involve explosions, such as power to supplement coal, gas, and oil-generated energy, or the production of isotopes for medical or research purposes.

Projects calling for explosive technology are feasible only if highly sophisticated devices are used. Fission-type explosives are not practical for excavation because the radioactive discharge would be unacceptably high and because fissionable material is so costly a source of energy. Admittedly, the per-kiloton costs of nuclear explosives decrease as the total yield of the detonation increases, but the higher the detonation the higher the risk and the more incalculable the results.

To date, experiments conducted in the Soviet Union and the United States, through the Plowshare Program conducted by the Atomic Energy Commission, have not established the economic utility of nuclear explosives for any of these proposed applications. The Soviet Union and the United States have a tremendous advantage over India in this regard, for they have acquired a substantial proportion of the technology of peaceful explosives as a by-product of weapons development and can charge off a large part of research and development costs to their weapons programs.

If and when continuing experimentation proves that nuclear explosives can be used for specific projects on a favorable cost-benefit ratio, the potential benefits of any peaceful applications of nuclear explosives are supposed to be made available, under Article V of the Non-Proliferation Treaty, to non-nuclear-weapon states party to the treaty on a nondiscriminatory basis and at a cost exclusive of research and development charges. India could, then, profit from the ultimate peaceful application of nuclear explosives at a much lower economic cost by allowing the expensive preliminary experimentation to be carried on by the advanced nuclear-weapons states. Questions of national pride, however, and India's persistent objections to the discriminatory nature of the Non-Proliferation Treaty, pose formidable obstacles to the adoption of this cost-benefit approach.

It is difficult for India and the United States to speak on the same wave length with respect to the problem of peaceful nuclear explosives. India maintains it is possible and necessary to distinguish between "peaceful" and "military" explosives, and cites in support of its case the recent Threshold Test Ban Treaty between the United States and the Soviet Union which leaves the question of peaceful explosives for further negotiations. The United States argues that a meaningful distinction between the two types of explosives can be made in the case of two advanced nuclear weapons powers, such as the United States and the Soviet Union, whereas it cannot in the case of an incipient nuclear power such as India.

In the most recent (29th) United Nations General Assembly session a resolution was adopted, against strong Indian opposition, calling for the study of measures to control peaceful nuclear explosions by the Conference of the Committee on

Disarmament (CCD) in Geneva, the IAEA, and the NPT Review Conference which met in Geneva in May 1975.

If for our present purposes we define national prestige as a government's status as reflected in the perceptions of others, including its own populace as well as foreigners, then a significant by-product of the Indian nuclear blast can be found in the reactions to it.

Within India, the prestige of the government has undoubtedly been magnified, although the initial widespread feeling of euphoria has given way to concern over the economic burdens of further testing, the strategic consequences of India's nuclear status, and the responsibilities which such status immediately confers.

Externally, the lowest-keyed reaction came from the existing nuclear weapons powers, while the harshest reaction stemmed from powers such as Canada, Sweden, and Japan which are also capable of nuclear weapons development but have foresworn such development. In the third world India may have suffered some loss in credibility.

The Chinese reaction was so slight as to suggest that China sought to deny India the prestige flowing from entry into the nuclear club by ignoring that entry. Subsequently, China has pledged its support to any victims of nuclear blackmail by India. After China had exploded its first nuclear device in 1964, President Johnson, certainly with India in mind, had promised US support to any country which came under the threat of Chinese nuclear blackmail.

This time, the reaction of the US Executive Branch was muted and restrained, probably in recognition of the fact that no words of condemnation or disapprobation by us could reverse the Indian action and could only be counterproductive. The US reaction emphasized the nondistinction between peaceful and military explosions and the dangers of nuclear proliferation. Within the US Government, as part of the preparatory work for the Non-Proliferation Review Conference in the spring of 1975, attention was focused prior to the Indian explosion on such proliferation problems as safeguarding of reactors and fissionable material against sabotage or theft by terrorist groups, and introducing barriers against diversion to military uses into the growing commercial business of exporting nuclear reactors and nuclear materials.

US congressional concern over proliferation in the wake of the Indian explosion was more vocal than that of the Executive Branch, although the Congress seems to have been much more disturbed by the possible dangers involved in the US offer to sell nuclear reactors to Egypt and Israel.

PL 93-377, approved 17 August 1974, amended a proposal by the Atomic Energy Commission which would have deleted an earlier statutory requirement that Congress authorize distribution of enriched uranium and plutonium to the IAEA and the European Atomic Energy Community (EURATOM). Instead, the Congress insisted on retaining the existing ceilings on amounts authorized to be distributed and, in addition, provided for congressional review of any proposed increases in the amount of special nuclear materials or for changes in the duration of agreements to distribute such materials.

On 10 October 1974, House-Senate conferees reconciled the minor differences between a bill passed by the House (HR 1582) and one passed by the Senate (S 3698) which were designed to provide the Congress a role in the approval of international agreements for peaceful cooperation in nuclear technology. The legislation stipulates that no proposed agreement involving reactors producing more than five megawatts of heat and fuel could be implemented until approved by a concurrent resolution of both houses of Congress—within 60 days of the receipt of the proposed agreement.

Besides escaping widespread condemnation, India has thus far experienced only very marginal sanctions by aid donors. The British and Japanese have reduced their aid levels for India. The House Foreign Affairs Committee, in justifying a cut in proposed economic aid to India of $25 million, noted that India's diversion of funds

to nuclear programs "raises questions about India's priorities at a time when mass famine threatens that country." The Congress also attached a rider to the International Development Agency (IDA) replenishment bill restricting aid to India. Neither of these sanctions has practical significance; the first because the overall foreign aid authorization would have been cut anyway and the second because the United States does not have a majority on the IDA Board and cannot of itself block actions by the Board. Still, these congressional responses are symptomatic of concern over India's nuclear policy, a concern which could be intensified if India should take further overt steps, such as conducting additional nuclear explosions.

Pakistan's alarmed reaction to the Indian nuclear explosion was predictable and understandable. Prime Minister Bhutto suggested that Pakistan might obtain nuclear protection from China and warned that Pakistan itself might develop nuclear weapons. He also hinted that the lifting of the embargo on United States military sales to the subcontinent would help satisfy Pakistan's security requirements in conventional armaments and, accordingly, Pakistan might not have to spend resources for a nuclear program.

Pakistan requested the inclusion of an item entitled "Declaration and establishment of a nuclear-free zone in South Asia" in the draft agenda of the twenty-ninth session of the United Nations General Assembly. On 20 November 1974, the First Committee adopted Pakistan's draft resolution by a vote of 84 to 2 (India and Bhutan) with 36 abstentions (including the United States, the United Kingdom, France, and the Soviet Union). At the same time, the First Committee adopted a shorter and blander Indian resolution by a vote of 90 to 0 with 32 abstentions (including Pakistan, France, China, the United Kingdom, and the United States). On 9 December 1974, the General Assembly passed both the Pakistani and Indian resolutions by votes of 96-2-36 and 104-1-27 respectively.

The United States abstained in all this voting because the two draft resolutions embodied such differing approaches as to make clear that India and Pakistan were not in any basic agreement on the goals and conditions for a nuclear weapon-free zone. The Indian resolution, obviously offered as a parliamentary counter to the Pakistani resolution, argued that the initiative for the creation of such a zone should come from the states of the region concerned. The Pakistani resolution called for the General Assembly to invite the South Asian states, and such other neighboring non-nuclear weapon states as might be interested, to begin consultations concerning the establishment of a nuclear weapon-free zone. The resolution also cited the Treaty on the Prohibition of Nuclear Weapons in Latin America (the Treaty of Tlatelolco) as a possible model.

The General Assembly also passed an Iranian-sponsored resolution for a Middle East nuclear-free zone, to include India and Pakistan. This flurry of activity in the United Nations arena is not likely to produce any early concrete results, since the way to give practical effect to any such resolutions, i.e. through a treaty undertaking by the principal regional states, is so unlikely a prospect. What seems certain, however, is that the question of a South Asian nuclear-free zone will again appear on the agenda of the next General Assembly session, as called for in the final paragraph of the resolution sponsored by Pakistan.

By way of summary, let us try to strike a balance sheet of the advantages and disadvantages which have accrued to India from the May 1974 nuclear explosion. First, India's prestige has been enhanced at home and abroad. India's credentials as a nuclear power have been certified; her aspirations to rise above middle power status have been strengthened; and her voice in the arena of disarmament and control of nuclear weapons has been enlarged substantially. This gain in prestige may not have been accomplished without a price. Many third world countries, which were accustomed to look to India for moral and political leadership, appear disappointed by the Indian action and seem skeptical of ultimate Indian intentions.

The strategic military equation in South Asia remains unchanged, but the delicate psychological and political balance affecting the resumption of US arms sales to Pakistan was probably shifted a notch or two in favor of Pakistan as a result of the Indian nuclear explosion. Economic sanctions against India by donor countries do not loom as particularly significant.

Finally, it appears unlikely that the economic advantage to be derived from the use of nuclear explosives will be sufficient, at least for the foreseeable future, to justify an explosives development program other than one whose principal objective is to achieve a nuclear weapons capability.

Ciro Zoppo, writing in the French context in 1962, claimed that considerations of prestige may be strong enough to lead aspiring nuclear powers to set about acquiring nuclear weapons, even when economic factors are inhibiting and the strategic case for such weapons is not very strong. To date, the only tangible reward to India from its nuclear explosion has been a gain in prestige. Perhaps India will be content to use that enhanced prestige in its own interests, while foregoing the dangerous option of weapons development and the uneconomic course of trying on its own to apply nuclear explosions to commercial or industrial purposes.

THE Indian explosion also needs to be evaluated against a broader concern than increments or decrements to Indian power. If the Non-Proliferation Treaty can be thought of as an international vessel which the majority of the world's nations were counting upon to check the dangerous spread of nuclear weapons, then the Indian explosion last year has vented a serious hole below the Treaty's waterline. Whether this hole will prove fatal by leading to the development of a nuclear weapons capability by additional nations will depend, in part, on the attitude and actions taken by India. Will India cooperate in the international effort to submit the export of nuclear technology and nuclear materials to IAEA safeguards designed to prevent their diversion to military purposes? Will India use its newly-enhanced prestige to play a constructive role in bringing about step-by-step agreements in the control of nuclear weapons, while continuing its diplomatic campaign to accent the peaceful uses of nuclear power? And, most important, will India forego further explosive experiments and thus deemphasize the national prestige of nuclear weapons? If the answer to these questions is affirmative, international damage control efforts may prove sufficient to keep the Non-Proliferation Treaty afloat and on course.